**ASSIGNMENT 3**

**(SAMPLE CALCULATOR)**

<https://www.programiz.com/online-compiler/3I9lw9zo6b2TI>

#include <stdio.h>

#include <math.h>

int main()

{

float a,b,c;

int j;

printf("Calculator\n");

printf("Enter 1 to convert for Addition, 2 to convert for Subtraction, 3 for Multiplication, 4 for Division, 5 for Logarithmic values & 6 for Square Roots\n");

scanf("%d",&j);

switch(j)

{

case 1:

printf("Enter two numbers\n");

scanf("%f %f",&a,&b);

c=a+b;

printf("Sum=%f",c);

break;

case 2:

printf("Enter two numbers\n");

scanf("%f %f",&a,&b);

c-a-b;

printf("Diffrence=%f",c);

break;

case 3:

printf("Enter two numbers\n");

scanf("%f %f",&a,&b);

c=a\*b;

printf("Product=%f",c);

break;

case 4:

printf("Enter two numbers\n");

scanf("%f %f",&a,&b);

c=a/b;

if(a==0 || b==0)

printf("Division Not Possible\n");

else

printf("Quotient=%d",c);

break;

case 5:

printf("Enter a number\n");

scanf("%f",&a);

c=log(a);

printf("Log=%f",c);

break;

case 6:

printf("Enter a number\n");

scanf("%f",&a);

c=sqrt(a);

printf("Square Root=%f",c);

break;

default: printf("Invalid input\n");

}

return 0;

}

A screenshot of a computer program

Description automatically generated

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**ASSIGNMENT 4**

**(Rock paper Scissors Game)**

<https://www.programiz.com/online-compiler/14XvJQ60kwcFZ>

#include <stdio.h>

#include <stdlib.h>

int main()

{

char user;

int comp, score=0;

printf("Rock Paper Scissors Game\n");

printf("Enter R for Rock, P for Paper, S for Scissors\n");

scanf("%c",&user);

comp=rand()%3;

// 0 for Rock, 1 for Paper, 2 for Scissors

switch(user)

{

case 'R':

printf("Your Choice:Rock\n");

if(comp==0)

printf("Computer's Choice:Rock\nIt's a DRAW");

else if(comp==1)

printf("Computer's Choice:Paper\nOHH NO! YOU LOST");

else if(comp==2)

printf("Computer's Choice:Scissors\nYAAY! YOU WON");

break;

case 'P':

printf("Your Choice:Paper\n");

if(comp==0)

printf("Computer's Choice:Rock\nYAAY! YOU WON");

else if(comp==1)

printf("Computer's Choice:Paper\nIt's a DRAW");

else if(comp==2)

printf("Computer's Choice:Scissors\nOHH NO! YOU LOST");

break;

case 'S':

printf("Your Choice:Scissors\n");

if(comp==0)

printf("Computer's Choice:Rock\nOHH NO! YOU LOST");

else if(comp==1)

printf("Computer's Choice:Paper\nYAAY! YOU WON");

else if(comp==2)

printf("Computer's Choice:Scissors\nIt's a DRAW");

break;

default: printf("Invalid input\n");

}

return 0;

}

**ASSIGNMENT 1**

**()**

**QUES 1**

<https://www.programiz.com/online-compiler/4VrT9wQHUGLLD>

#include <stdio.h>

#include <math.h>

int main()

{

//ques 1

int num, x, y, rem, sum;

printf("Enter a number:\n");

scanf("%d",&num);

x=num;

while(num!=0)

{

x=x/10;

y++;

}

while(num!=0)

{

rem=x%10;

sum+=pow(rem,y);

}

if(sum==num)

printf("%d is an Armstromg number.",num);

else

printf("%d is nor an Armstrong number.",num);

return 0;

}

**QUES 2**

<https://www.programiz.com/online-compiler/0HdqHAYIELQza>

#include <stdio.h>

int main()

{

//ques2

int a,b,hcf;

printf("Enter two Integers:\n");

scanf("%d %d",&a,&b);

for(int i=2; i<=a,i<=b;i++)

{

if(a%i==0 && b%i==0)

hcf=i;

}

printf("HCF=%d",hcf);

return 0;

}

**QUES 3**

**QUES 4**

<https://www.programiz.com/online-compiler/5SqVSx5PA6dCp>

#include <stdio.h>

int main()

{

// ques 4

int a,b,t;

printf("Enter 2 Numbers:\n");

scanf("%d %d",&a,&b);

//method 1

t=a;

a=b;

b=t;

printf("Swapped values of a=%d and b=%d",a,b);

return 0;

}

<https://www.programiz.com/online-compiler/6CcuCV2iDpVA3>

#include <stdio.h>

int main()

{

//method 2

int a,b;

printf("Enter 2 numbers a and b:\n");

scanf("%d %d",&a,&b);

a=a+b;

b=a-b;

a=a-b;

printf("After swapping a=%d, b=%d",a,b);

return 0;

}

<https://www.programiz.com/online-compiler/9AB9ARI1AsV4U>

#include <stdio.h>

int main()

{

//ques 4

int a,b;

printf("Enter 2 numbers a and b:\n");

scanf("%d %d",&a,&b);

//method 3

a=a\*b;

b=a/b;

a=a/b;

printf("After swapping a=%d, b=%d",a,b);

return 0;

}

**QUES 5**

<https://www.programiz.com/online-compiler/3JeDJhJET79pm>

#include <stdio.h>

int main()

{

//ques 5

int num,sum;

printf("Enter a number:\n");

scanf("%d",&num);

for(int i=1; i<num;i++)

{if(num%i==0)

sum+=i;}

if(sum==num)

printf("It's a Perfect Number");

else

printf("It's not a Perfect No.");

return 0;

}

**QUES 6**

<https://www.programiz.com/online-compiler/6lO1lsIs8XePl>

#include <stdio.h>

int main()

{

//ques 6

int x,y;

printf("Enter x,y coordinates:\n");

scanf("%d %d",&x,&y);

if(x>0 && y>0)

printf("First Quadrent");

else if(x<0 && y>0)

printf("Second Quadrent");

else if(x<0 && y<0)

printf("Third Quadrent");

else if(x>0 && y<0)

printf("Fourth Quadrent");

return 0;

}

**QUES 7**

**QUES 8**

<https://www.programiz.com/online-compiler/8vCt0YekNaQxh>

#include <stdio.h>

int main() {//ques 8

int i,j;

for(i=1;i<=5;i++)

{

for(j=1;j<=i;j++)

{

if(i%2==0)

{

if(j%2==0)

printf("1");

else

printf("0");

}

else

{

if(j%2==0)

printf("0");

else

printf("1");

}

}

printf("\n");

}

return 0;

}

**ASSIGNMENT 2**

**QUES 1**

<https://www.programiz.com/online-compiler/5rlj3LpVk49Os>

#include <stdio.h>

int main()

{

//ques1

int marks[5]={67,75,86,69,92};

for(int i=0;i<5;i++)

{

marks[i]+=5;

printf("New Marks=%d\n",marks[i]);

}

return 0;

}

**QUES 2**

<https://www.programiz.com/online-compiler/378UCx1QiOYEa>

#include <stdio.h>

int main()

{

//ques2

int marks[5];

printf("Enter Marks:\n");

for(int i=0;i<5;i++)

{

scanf("%d",&marks[i]);

if(marks[i]>=75)

printf("Grade A\n");

else if(marks[i]<=74 && marks[i]>=60)

printf("Grade B\n");

else if(marks[i]<=59 && marks[i]>=40)

printf("Grade C\n");

else if(marks[i]<=40)

printf("Grade D\n");

}

return 0;

}

**QUES 3**

<https://www.programiz.com/online-compiler/3LhVkcRPZS3D1>

#include <stdio.h>

int main()

{

//ques3

int marks[15]={67,75,86,69,92,46,99,72,25,86,90,54,76,75,99};

for(int i=0;i<15;i++)

{

if(marks[i]==99)

{

printf("First 99 found at index:%d",i);

break;

}

}

return 0;

}

**QUES 4**

<https://www.programiz.com/online-compiler/2P71aQOAVlDfI>

#include <stdio.h>

int main()

{

//ques4

int marks[5], name[5], count=0;

printf("Enter Name and Marks:\n");

for(int i=0;i<5;i++)

{

scanf("%s",&name[i]);

scanf("%d",&marks[i]);

}

printf("Students who have scorred 99 are:\n");

for(int i=0;i<5;i++)

{

if(marks[i]==99)

{

printf("Student %d \n",i+1);

count++;

}

}

printf("No. of Students who have scorred 99 are:%d",count);

return 0;

}

**QUES 5**

<https://www.programiz.com/online-compiler/9rljJWBAs4ZGG>

#include <stdio.h>

int main()

{

//ques5

int sum=0;

int marks[5]={67,75,86,69,92};

for(int i=0;i<5;i++)

{

sum+=marks[i];

}

printf("SUM=%d",sum);

return 0;

}

**QUES 6**

<https://www.programiz.com/online-compiler/8CcHmnZDupVE0>

#include <stdio.h>

int main()

{

//ques6

int sum=0,avg;

int marks[5]={67,75,86,69,92};

for(int i=0;i<5;i++)

{

sum+=marks[i];

}

avg=sum/5;

printf("AVG=%d",avg);

return 0;

}

**QUES 7**

<https://www.programiz.com/online-compiler/6dsxNNL4oh1Ki>

#include <stdio.h>

int main()

{

//ques7

int marks[5]={67,75,86,69,92};

for(int i=0;i<5;i++)

{

if(marks[i]%2==0)

printf("Score %d is Even\n",marks[i]);

else

printf("Score %d is odd\n",marks[i]);

}

return 0;

}

**QUES 8**

<https://www.programiz.com/online-compiler/6Hd5kIrFwL6rP>

#include <stdio.h>

int main()

{

//ques8

int marks[5]={67,75,86,69,92};

int max=marks[0],min=marks[0];

for(int i=0;i<5;i++)

{

if(marks[i]>=max)

max=marks[i];

else if(marks[i]<=min)

min=marks[i];

}

printf("Maximum marks=%d\n",max);

printf("Minimum marks=%d\n",min);

return 0;

}

**QUES 9**

<https://www.programiz.com/online-compiler/0CcHmgkb3p5mu>

#include <stdio.h>

int main()

{

//ques9

int marks[5]={67,75,86,69,92};

printf("Peak Elements are:\n");

if(marks[0]>=marks[1])

printf("%d\n",marks[0]);

if(marks[4]>=marks[3])

printf("%d\n",marks[4]);

for(int i=0;i<5;i++)

{

if(marks[i]>=marks[i-1] && marks[i]>=marks[i+1])

printf("%d\n",marks[i]);

}

return 0;

}

**QUES 10**

<https://www.programiz.com/online-compiler/8ZzySqEX0c4fF>

#include <stdio.h>

int main()

{

//ques10

int count=0;

int a[5]={67,75,86,69,92};

printf("Prime Numbers are:\n");

for(int i=0;i<5;i++)

{

for(int j=2;j<a[i];j++)

{

if(a[i]%j==0)

count++;

}

if (count==0)

printf("%d\n",a[i]);

}

return 0;

}

**QUES 11**

<https://www.programiz.com/online-compiler/0sFPwUAuQI6JR>

#include <stdio.h>

int main()

{

//ques11

int p,n,x;

printf("Enter the number of Elements:\n");

scanf("%d",&n);

int a[n+1];

printf("Enter the Elements of the Array:\n");

for(int i=0;i<n;i++)

{

printf("Element %d ",i+1);

scanf("%d",&a[i]);

}

printf("Enter the position at which new element has to be inserted and the value of element respectively:\n");

scanf("%d",&p);

scanf("%d",&x);

for(int i=n;i>=p-1;i--)

{

a[i+1]=a[i];

}

a[p-1]=x;

for(int i=0;i<n+1;i++)

{

printf("Element %d= %d\n",i+1,a[i]);

}

return 0;

}

**QUES 12**

<https://www.programiz.com/online-compiler/92Es5OVR2fyUH>

#include <stdio.h>

int main()

{

//ques12

int p,n;

printf("Enter the number of Elements:\n");

scanf("%d",&n);

int a[n];

printf("Enter the Elements of the Array:\n");

for(int i=0;i<n;i++)

{

printf("Element %d ",i+1);

scanf("%d",&a[i]);

}

printf("Enter the position at which a element has to be deleted:\n");

scanf("%d",&p);

for(int i=p-1;i<=n-1;i++)

{

a[i]=a[i+1];

};

for(int i=0;i<n-1;i++)

{

printf("Element %d= %d\n",i+1,a[i]);

}

return 0;

}

**QUES 13**

<https://www.programiz.com/online-compiler/53aDRA5GXJBFh>

#include <stdio.h>

int main()

{

//ques13

int p,n;

printf("Enter the number of Elements:\n");

scanf("%d",&n);

int a[n];

printf("Enter the Elements of the Array:\n");

for(int i=0;i<n;i++)

{

printf("%d: ",i+1);

scanf("%d",&a[i]);

}

int l=a[n-1];

for(int i=n;i>=0;i--)

{

a[i]=a[i-1];

}

a[0]=l;

printf("New Array after Rotation:\n");

for(int i=0;i<n;i++)

{

printf("%d: %d\n",i+1,a[i]);

}

return 0;

}

**QUES 14**

<https://www.programiz.com/online-compiler/9fkIVpSAJyBpV>

#include <stdio.h>

int main()

{

//ques14

int count=0;

int a[15]={67,69,86,69,92,45,34,62,86,56,72,92,35,66,45};

printf("the Duplicate Elements are:\n");

for(int i=0;i<15;i++)

{

for(int j=0;j!=i;j++)

{

if(a[j]==a[i])

printf("%d,",a[j]);

}

}

return 0;

}